

# Plakoto

## A Backgammon Board Game Variant Introduction, Rules and Basic Strategy

(by J.Mamoun - This primer is copyright-free, in the public domain)

### Introduction:

Plakoto is a variation of the game of backgammon. Plakoto is played in Greece and Turkey, and in Egypt, where it is known as Mahbooseh. The greeks have a word called “Tavli,” which means the three backgammon games of backgammon, plakoto, and another game called fevga. The Greeks play these three games back to back in a kind of tavli “marathon” among friends in gatherings or coffee shops.

In plakoto, unlike in backgammon, a checker cannot be hit and sent to the bar. Instead, in plakoto, a checker can be blocked if an opponent lands on the position point where that checker is located, but only if that checker is only one lonely checker (known as a blot) on that position point when the opponent lands on that checker. If the opponent lands on that checker, the opponents checker is laid on top of that checker on that position point. A player cannot move a trapped checker until all opponent checkers have moved off that trapped checker. An opponent can pile as many checkers as the opponent wants on the player's trapped checker. Players can form blocks by piling two of the same player's checkers on one position point, or players can form blocks by trapping an opponent checker on a position point. A player's block cannot be landed on by the opponent, and vice versa. Blocks are how players can slow down their opponents. The object of plakoto, like in backgammon, is to move all of one's checkers around the board to a goal quadrant, and bear off the checkers. The first to bear off the checkers wins the game.

### References:

There are not many books written about plakoto. For more information, see the books:

Backgammon Games and Strategies (1978) by Nicolas and Basil Tzannes or  
Plakoto Board Game Strategy (2017) by John Mamoun

Or, for some articles on neural nets and plakoto game programming and strategy, see:

Papahristou, N. and Refanidis, I. Constructing Pin Endgame Databases for the Backgammon Variant Plakoto. 14<sup>th</sup> International Conference Advances in Computer Games. ACG 2015, Leiden, The Netherlands, LNCS 9525, pp 177-184, 2015.

Papahristou, N. and Refanidis, I. On the Design and Training of Bots to Play Backgammon Variants, 8<sup>th</sup> IFIP WG 12.5 Artificial Intelligence Application and Innovations Conference, AIAI 2012, Halkidiki, Greece, September 27-30, 2010. Proceedings, Part I, volume 381/2012, pp 78-87, 2012.

#### Rules of Plakoto:

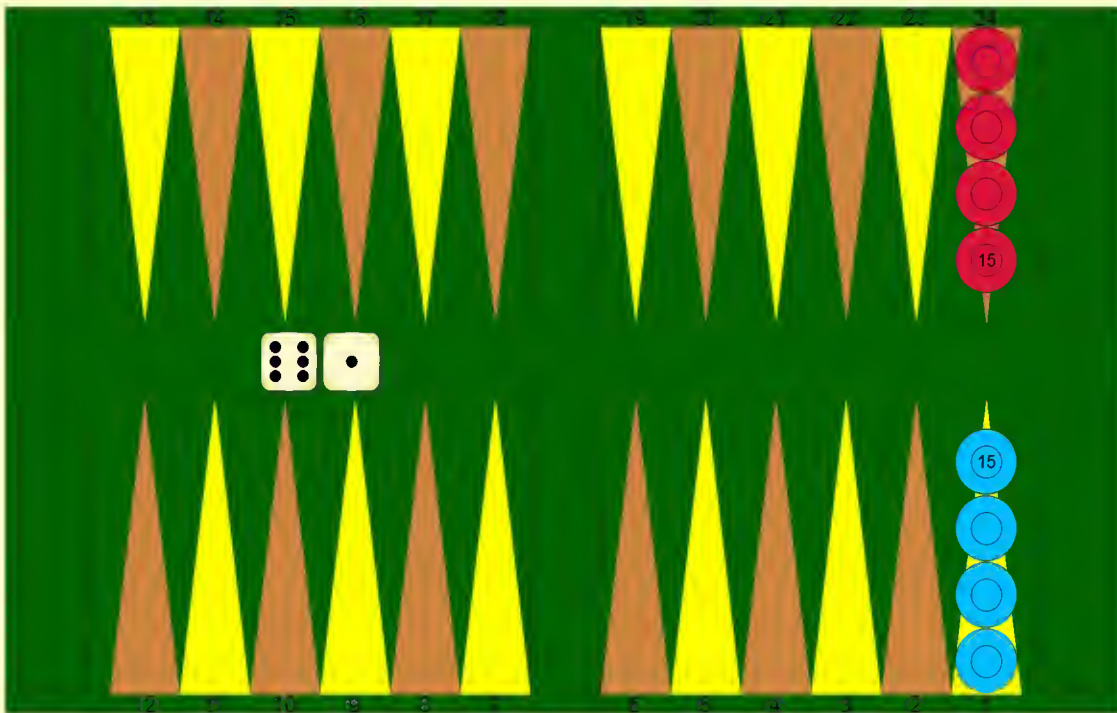


Fig. 1: The initial opening game position in Plakoto. The board can be divided into four quadrants. Red's first quadrant consists of position points 19-24, red's second quadrant consists of position points 13-18, red's third quadrant consists of position points 7-12, and red's fourth or goal quadrant consists of position points 1-6. For blue, points 1-6 are blue's first quadrant, points 7-12 are blue's second quadrant, points 13-16 are blue's third quadrant, and points 19-24 are blue's fourth or goal quadrant.

(The following rules are adapted from the digital manual of the program Palamedes, an open-source neural net program that plays plakoto, backgammon and fevga at a world-class level,

developed by professor Nikos Papahristou. This is a good computer program for practicing these three Tavli games and learning basic skills and advanced strategy):

Setup: Each player starts with fifteen checkers piled up on a starting point or the 1-point or origin point. For red, the starting point is the 24-point in the above diagram. For blue, the starting point is the 1-point. The checkers move around the board in opposite directions. Red would move counter-clockwise, and would want to move all of red's checkers to red's goal quadrant, numbered 1-6. Blue would move clockwise, and would want to move all of blue's checkers to blue's goal quadrant, numbered 19-24.

Object: The object of the game is to bring all of one's checkers around to one's own home board and then bear them off. The first player to bear off all of his or her checkers wins the game.

To start: Each player rolls one die and the higher number goes first. That player then rolls the dice again to begin his first turn. After the first game, the winner of the previous game goes first.

Movement: The roll of the dice indicates how many points or pips the player is to move his checkers. The following rules apply:

--A checker may be moved only to an open point, one that is not occupied by two or more opposing checkers. Also a player cannot move a checker onto a point where the opponent has trapped a player's checker.

--The numbers on the two dice constitute separate moves. For example, if a player rolls 5 and 3, he may move one checker five spaces to an open point and another checker three spaces to an open point, or he may move the one checker a total of eight spaces to an open point, but only if the intermediate point (either three or five spaces from the starting point) is also open.

--Doubles are played twice. For example, a roll of 6-6 means the player has four sixes to use.

--A player must use both numbers of a roll if possible, or all four numbers in the case of doubles.

Trapping the opponent: There is no hitting in this game. Instead, if a player lands on a point occupied by a single opposing checker, the opponent's checker is trapped until the trapping player removes his or her checker. Two of a player's checkers on a point, or one of a player's checkers pinning the opponent's checker, creates a block on which the opponent cannot land.

Trapping the last 1-point checker: If the last 1-point checker gets pinned by the opponent before it has left the 1-point, the game is over and the player loses two points. The only exception is if the opponent still has checkers on his or her origin point, since in this case the opponent's own last 1-point checker could still theoretically be trapped. A game in which both players' respective 1-point checkers are trapped is a draw.

Bearing off: Once a player has moved all fifteen of a player's checkers into the player's home board, the player may begin bearing off. A player cannot bear off when the player has one or more checkers trapped inside the player's home board. A player bears off by rolling a number that corresponds to the point on which the checker resides, and then removing that checker from



the board. If there is no checker on the point indicated by the roll, then the player must make a legal move using a checker on a higher-numbered point. If there are no checkers on higher-numbered points, a player must remove a checker from the highest point that has a checker. For the purposes of bearing off checkers, the position points in a goal quadrant correspond to dice numbers in the following way: the point closest to the edge of the board corresponds to the 1 die number, the point second closest to the edge corresponds to the 2 die number, and so on and so forth, while the goal quadrant position point closest to the middle of the board corresponds to the 6 die number.

Scoring: The first player to bear off all fifteen checkers wins the game. If the losing player has borne off at least one checker, he loses only one point. If the losing player has not borne off a single checker by the time the opponent has borne off all of the opponent's checkers, then the player loses two points.

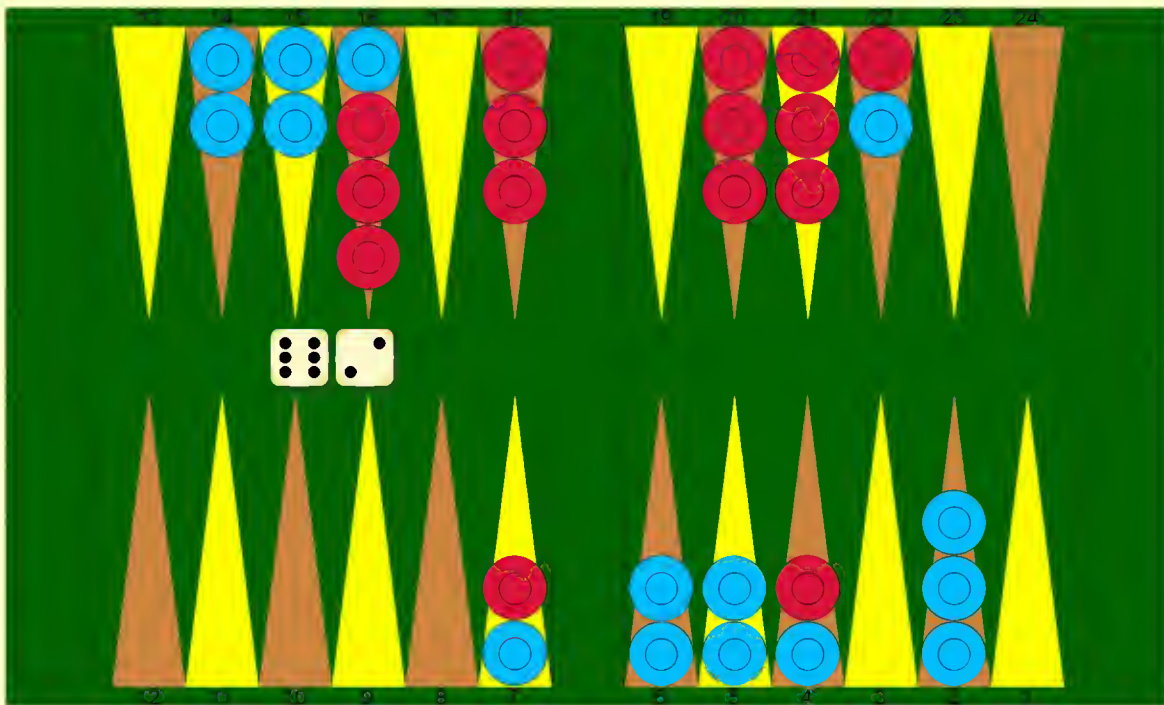


Fig 2: Example plakoto board game position showing blocks and traps. Red has trapped blue on position points 4, 7 and 16. Red has piled three checkers onto blue's checker on the 16-point. It will take more time before blue's trapped checker can be released from the 16-point, compared to if only one checker was piled up on top of blue's 16-point checker. Blue also has trapped red's checker on the 22-point. Red and blue also have blocks, containing two or more of the same color on a position point. Blue, for example, has blocks on the 2, 5, 6, 14 and 15 points, with three blue checkers piled up on blue's 2-point.

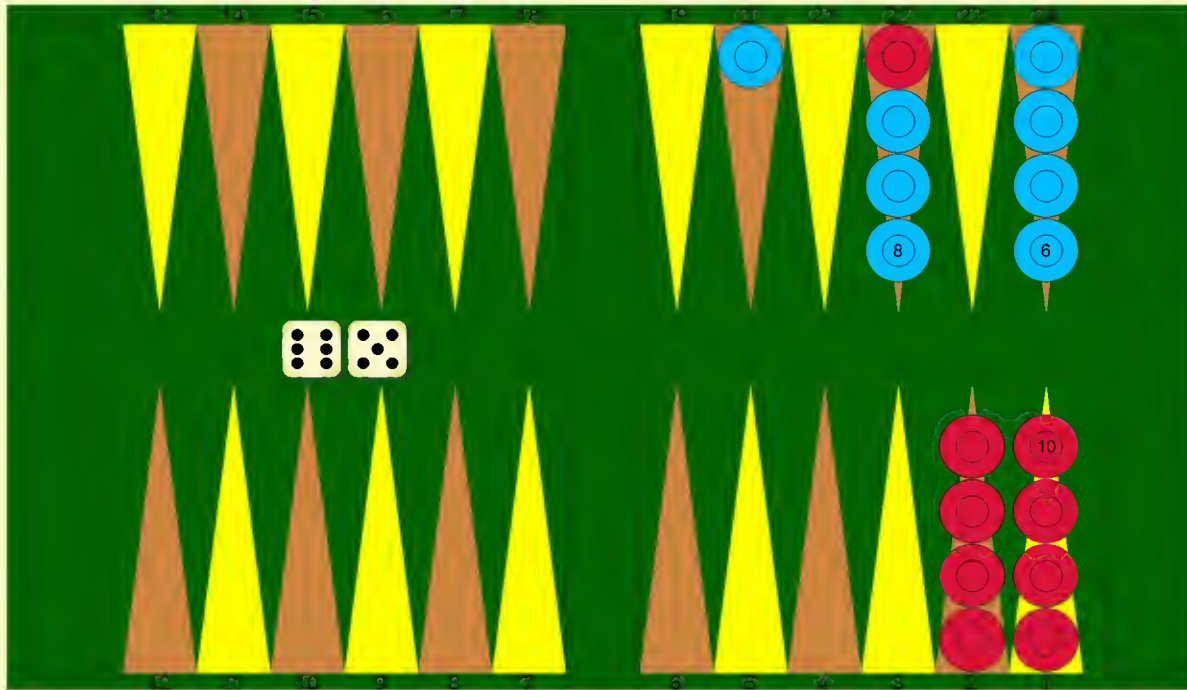


Fig. 3: Example plakoto position showing how blue has moved all of blue's checkers to blue's goal quadrant (position points 19-24). Blue can now begin to bear checkers off the board. Red, however, is in trouble, because blue has trapped red's checker on the 22-point, which is still inside red's origin or beginning quadrant of the board. Not only has blue trapped red's 22-point checker, but blue has piled 8 checkers on top of red's checker, so it will be a long time before red's checker will have become freed. During that time, blue will have borne off many checkers and have a big lead in the game. After red's checker is free, red will have to move that checker all the way around the board, in a counter-clockwise direction, to red's goal quadrant (position points 1-6) before red can bear off a single checker. By the time red starts bearing off a checker, blue might have borne off all of blue's checkers, so that blue would win a double game or "gammon" victory here.

In figure 3, blue can bear off a checker if blue rolls a 1, 3 or a 5, or a dice roll that adds up to 3 or 5. If blue rolls a 1, blue can bear off a checker from the 24-point. If blue rolls a 3, blue can bear off a checker from the 22-point, and blue can bear off a checker from the 20-point if blue rolls a 5.

### Basic Strategy in Plakoto

In the plakoto opening game, a player's priority is to try to create blocks in the player's origin or first quadrant (position points 19-24). These blocks are safety positions where a player can safely put the player's checkers. The player wants to form these blocks as quickly as is possible, because the player does not want the opponent to trap one of the player's checkers in the player's origin quadrant. If the opponent does this, the opponent will gain a big advantage over the player early in the game.

Generally, a player uses dice rolls to unstack checkers from the player's 1-point in the early stages of the game. This will put single loose player checkers in the player's origin quadrant. There is little risk that an opponent can trap the player's checkers located so far away in the player's origin quadrant. The advantage of putting down these loose checkers is that, on the next turn, the player might get a roll that will enable the player to land another checker on top of the player's loose checker, and form a safety block in the player's origin quadrant.

An opponent might get lucky and roll a high double that will allow the opponent, in one turn, to take a checker from the opponent's origin quadrant, and move that checker all around the board and land on and trap a player's loose checker in the player's origin quadrant. This would put the player at a big disadvantage if this happened, but the risk of this happening is small enough that the benefits of forming early blocks and taking the risk of this happening outweigh the negatives.

Each player, ideally, in the opening game wants to form several blocks in a row in the player's first quadrant, and then, after forming these first quadrant blocks, the players want to ideally gradually shift the blocks outward into the player's second quadrant, to give the player defensive blocks in the outfield. Players also look for opportunities to form blocks close to the opponent's first or origin quadrant, in hopes of positioning checkers close to the opponent's first quadrant. This way, if the opponent leaves a loose checker in the opponent's first or second quadrants, the player might be able to use a checker from the advanced block to trap that opponent's checker located near to the player's block. For this reason, one of the most valuable opening rolls in plakoto is 6-6, since this allows a player to immediately form an advanced block in the player's third quadrant, by moving two 1-point checkers twelve spaces forward to form an advanced block in the third quadrant. For red, this would involve moving 24/18 24/18 18/12 18/12.

In general, one of the biggest risks and dangers in plakoto is for a player to be trapped by the opponent on the player's 1-point. Since being trapped on the 1-point is so dangerous, almost guaranteeing loss of the game, the fifteen checkers that are piled up on the 1-point at the beginning of the game represent a player's biggest liability. Therefore, a player must try to empty all of the checkers from the player's 1-point as early in the game as is practical. In addition, the player wants to empty out all checkers from the 2-point, 3-point and 4-point as early in the game as is possible, because being trapped by the opponent on these points is also very dangerous.



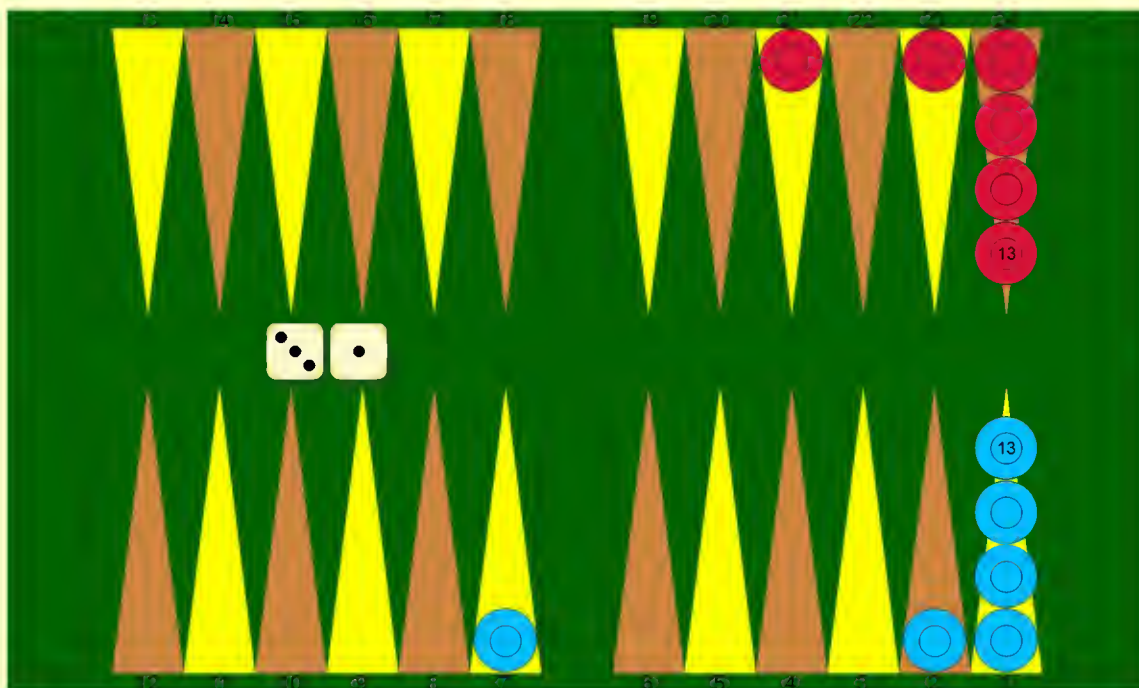


Fig.4: Red rolled a 3-1 and moved 24/23 24/21 to put builder blot checkers on position points 23 and 21, hoping to roll a 3 or a 1 next roll to cover these blots and form defensive blocks in red's first quadrant.

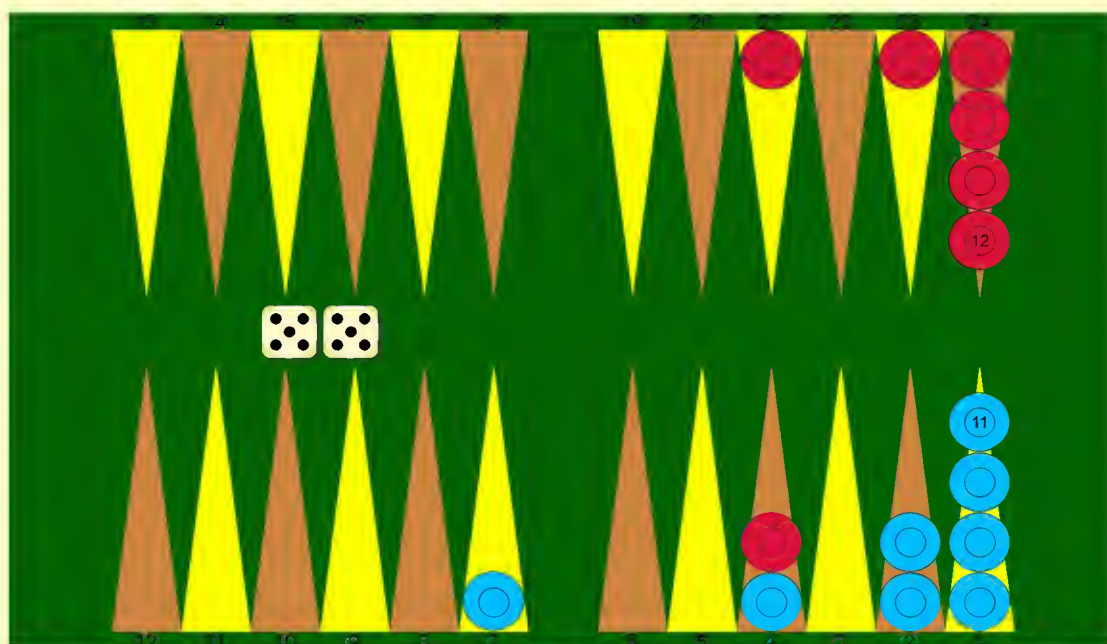


Fig.5: Bad luck for blue! Blue had put a builder blot on the 4-point, and red then rolled a lucky 5-5. Red then brought a checker from red's 1-point (here, red's 1-point is the 24-point) all

around the board to trap blue's checker on the 4-point, by playing 24/19 19/14 14/9 9/4. Blue is now at a considerable disadvantage in this game, and blue will have difficulty freeing blue's trapped 4-point checker in time to be able to bear off blue's checkers before red bears off red's checkers to win the game. Note that, the closer the trap is to the 1-point, the more valuable the trap is for the trapping player. Red's trap on the 4-point is very close to blue's 1-point, so this is a very strong trap for red. However, if red can form a trap on the 3-point, 2-point, and especially the 1-point, red will have a more powerful trap than red's trap on the 4-point.

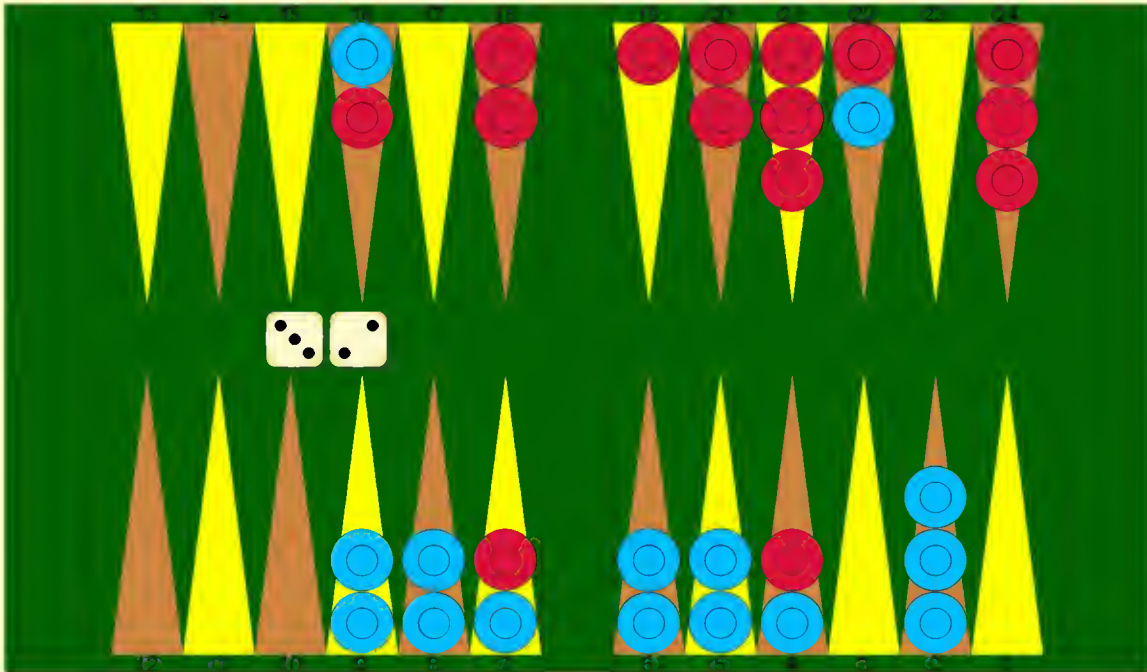


Fig.6: Red and blue have created several blocks in their respective first quadrants, and have started to shift the blocks outward into their respective second quadrants. Both players have trapped some of the other's checkers. Blue has trapped red's checker on the 22-point, which is only two position points away from red's 1-point checkers (located on the 24-point). This makes blue's 22-point trap more powerful than red's offensive trap of blue's checker on the 4-point, which is located three position points away from blue's 1-point, which makes red's trap on the 4-point less valuable for red than blue's trap of red's checker on the 22-point is valuable for blue. Blue also has an advantage in this game because blue has emptied out all of blue's checkers from blue's 1-point, but red still has three checkers on red's 1-point. Blue is therefore no longer liable to having one of blue's 1-point checkers trapped by red, but red is still at risk of having one of red's 1-point checkers trapped by blue.



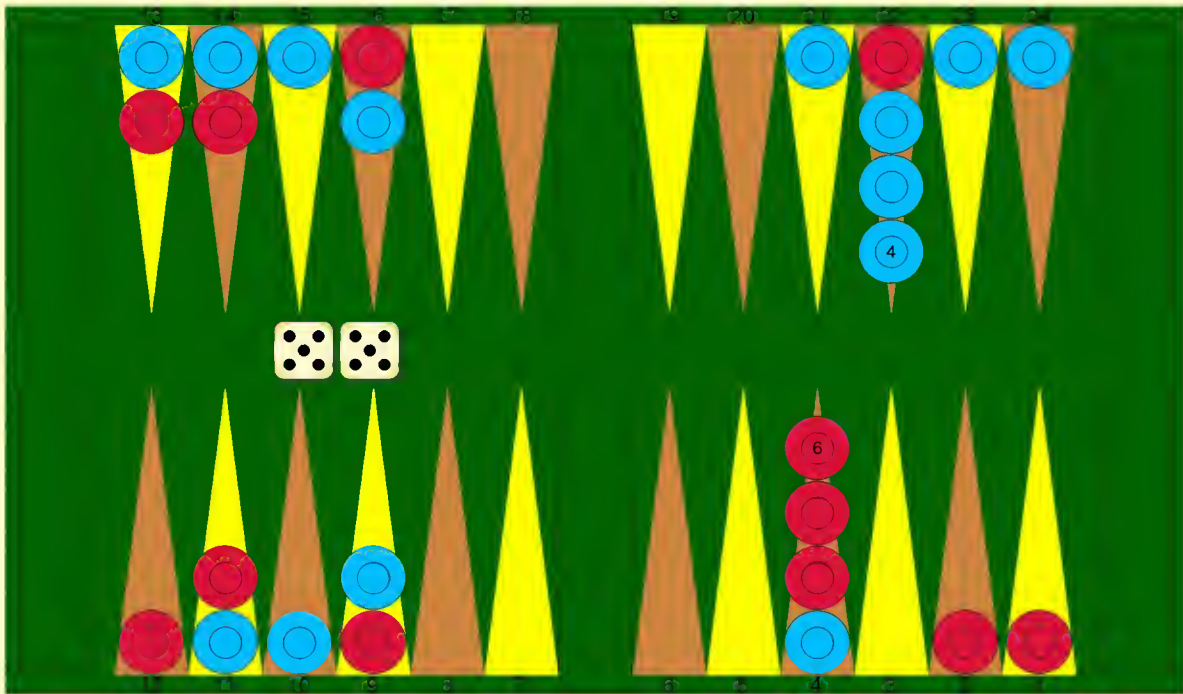


Fig.7: One tactic in plakoto is to try to pile up large numbers of checkers on a checker that is trapped in an opponent's first quadrant. The greater the numbers of checkers that are piled up on the trapped checker, the more time it will take before that trapped checker can be freed. Here, blue has four checkers piled up on red's trapped 22-point checker, while red has six checkers piled up on blue's trapped 4-point checker. Red has to pile up more checkers on blue's trapped checker on the 4-point to gain an advantage over blue, because red's trap is farther away from blue's 1-point checkers, compared to blue's trap of red's checker on the 22-point.

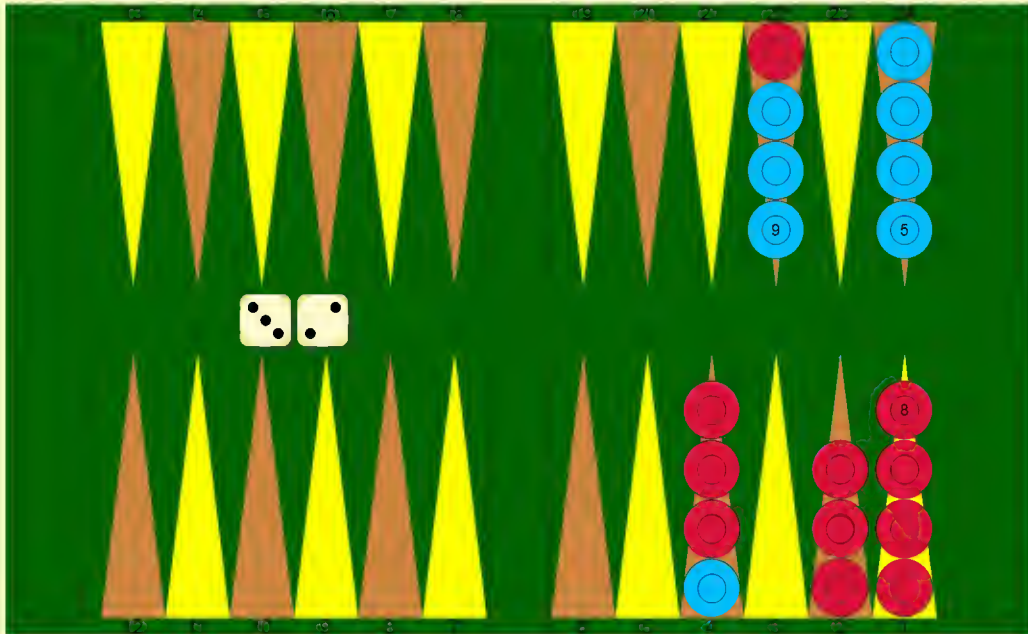


Fig.8: Blue has nine checkers piled up on red's trapped 22-point checker, but red only has three checkers trapped on blue's 4-point checker. Blue is almost guaranteed to win this game, because red is almost certainly going to be forced to free blue's trapped 4-point checker before blue frees red's trapped 22-point checker. Every time red rolls a 3 or a 2, red will be forced to remove a trapping checker from the 4-point. Blue will be forced to remove a trapping checker if blue rolls a 2 or a 1.

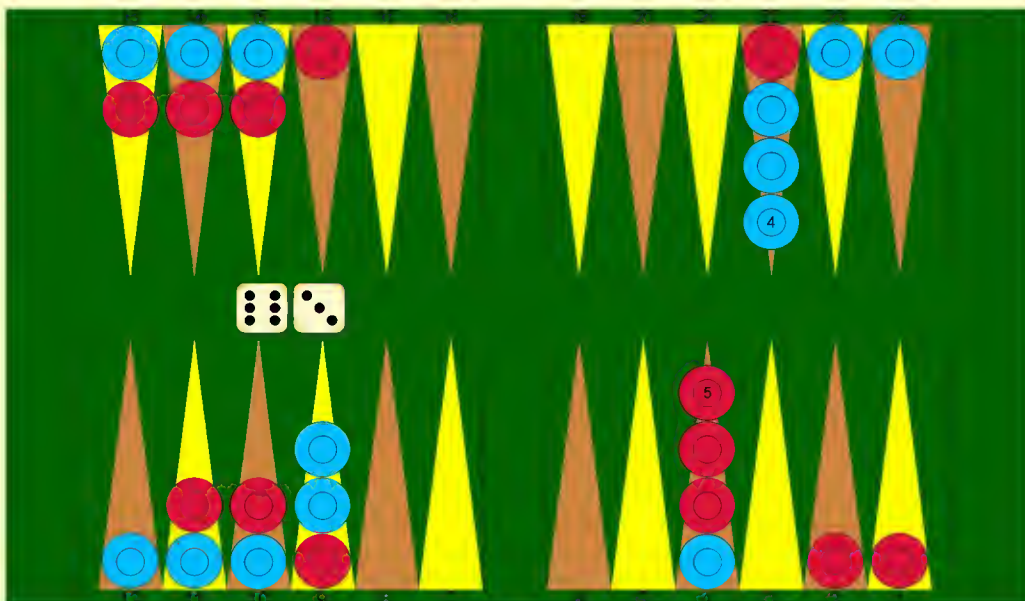


Fig.9: Notice how red has three traps in a row on the 13, 14 and 15 points. A row of traps is

called a prime. Here, red has a three-anchor prime from points 13 to 15. In addition, red has two more blocks in a row on the 11 and 10 position points. So, red has blocked five out of six position points from the 10 to the 15 points. If red traps blue's checker on the 12-point, red will form a six-anchor prime, which blue will not be able to pass unless red breaks up the prime. Having multiple blocks or traps in a row is a potentially powerful way of slowing down the opponent.

Note that many of red's blocks are traps, and since they are traps, they only need one red checker to form the block. If these blocks were not traps, red would need two checkers to hold the block. Forming blocks by trapping opponent checkers is an "inexpensive" way to form a block, because only one checker needs to be tied up to form the block, compared to a non-trap block, which requires two checkers to be tied up. Here, red's traps are not that useful because there are only a few blue checkers that are trapped behind those blocks. Red's checkers are also mostly restricted in their mobility except for the red checkers that are trapping blue's pieces, so red may be soon forced to release those trapped blue checkers on the 10 to 15 points, and break up red's prime. The timing of the block or trap is important for determining how valuable is the block or trap. If the game timing will soon force a player to break up a block or a trap, that block or trap may not be very valuable.

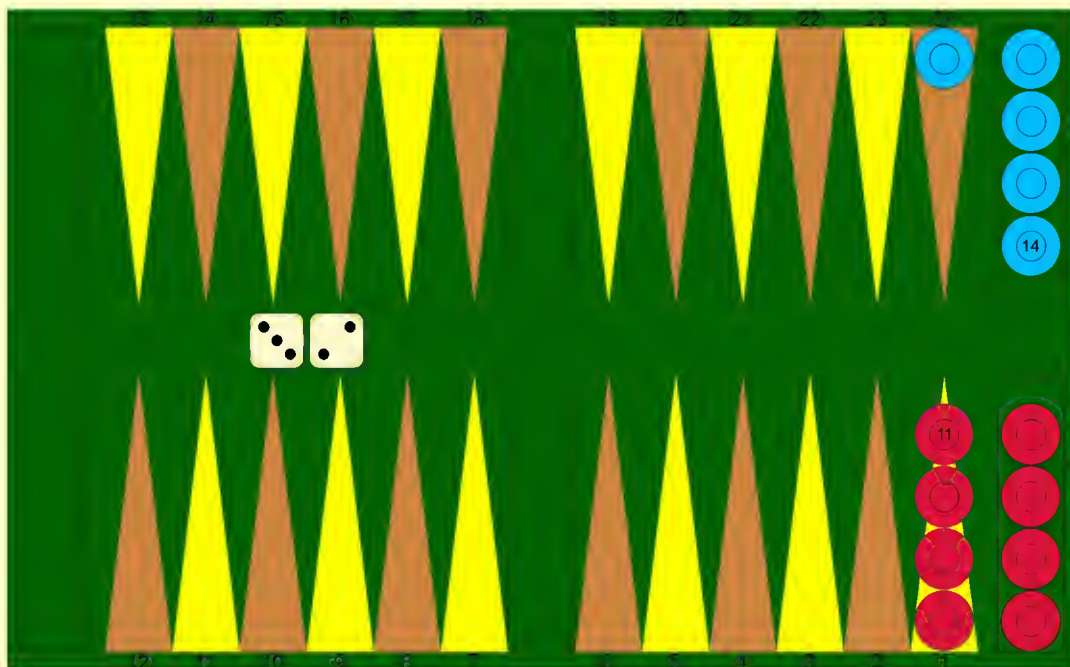


Fig.10: It is game over for red. Blue has only one more checker to bear off before blue wins the game, but red still has eleven checkers on the last position point of red's goal quadrant.